

ARCS

Remedial Planning Activities
at Selected Uncontrolled
Hazardous Substance Disposal
Sites in Region I

SCANNED



Environmental Protection Agency
Region I

ARCS Work Assignment No. 09-1JZZ

80/80 Bridge Street
Newton, MA
MAD001071034
TDD# 9202-19-ATP

SITE:	3-0000737
BREAK:	
OTHER:	SI

Preliminary Assessment
Final Report

April 1993

80 Bridge ST

TRC
Companies, Inc.

TAMS Consultants, Inc.
PEI Associates, Inc.
Jordan Communications, Inc.

PRELIMINARY ASSESSMENT
80/90 BRIDGE STREET
NEWTON, MASSACHUSETTS

MAD001071034

FINAL REPORT

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region I
90 Canal Street
Boston, Massachusetts 02203-2211

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EPA Region:	I
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INTRODUCTION

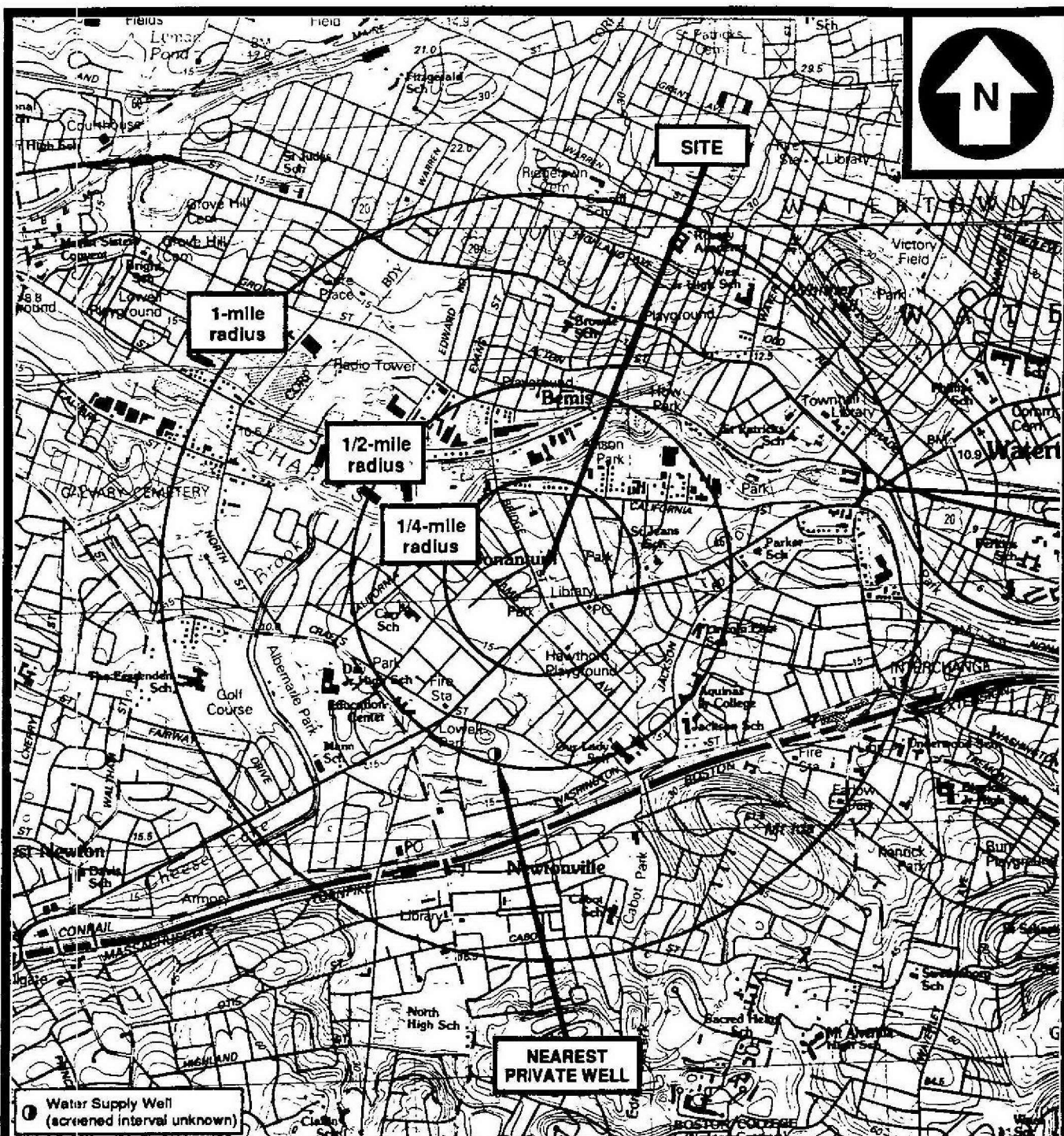
The TRC Companies, Inc. (TRCC), contracted by the Region I U.S. Environmental Protection Agency (EPA) Waste Management Division under the Alternative Remedial Contract Strategy (ARCS/Region I) program, was requested to perform a Preliminary Assessment (PA) of the 80/90 Bridge Street property located in Newton, Massachusetts. The 80/90 Bridge Street property was formerly designated the Cecil H. Wrightson property. This PA was completed under Work Assignment No. 09-1JZZ and Technical Directive Document (TDD) No. 9202-19-ATP issued to TRCC on February 28, 1992.

Background information used to generate this report was obtained through file reviews at the Massachusetts Department of Environmental Protection (MADEP) and at U.S. EPA Region I in Boston, MA, telephone interviews with local officials and individuals knowledgeable of the property history and characteristics, and contacts with other Federal, State, and local agencies. Information was also collected during the onsite reconnaissance conducted by TRCC on November 5, 1992.

This PA report follows guidelines developed under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, commonly referred to as Superfund. However, they do not necessarily fulfill the requirements of other EPA regulations such as those under the Resource Conservation and Recovery Act (RCRA) or other Federal, State, or local regulations. Preliminary Assessments are intended to provide an initial screening of sites to facilitate EPA's assignment of site priorities. They are limited efforts and are not intended to supersede more detailed investigations.

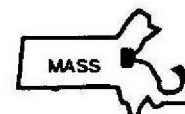
SITE DESCRIPTION

The 80/90 Bridge Street property is located in Newton, Middlesex County, Massachusetts at 42° 22' 0.2" north latitude and 71° 12' 17.9" west longitude (Gabis, 1992a) (Figure 1). It is part of a large industrial complex known as Chapelbridge Park (between Chapel and Bridge Streets). The one-acre property consists of a divided, one- and two-story brick building,



BASE MAP IS A PORTION OF THE FOLLOWING 7.5 x 15' USGS QUADRANGLES:
BOSTON NORTH, 1985; BOSTON SOUTH, 1987

0 1000 2000 3000 feet



QUADRANGLE LOCATION

LOCATION MAP

80/90 BRIDGE STREET
NEWTON, MASSACHUSETTS

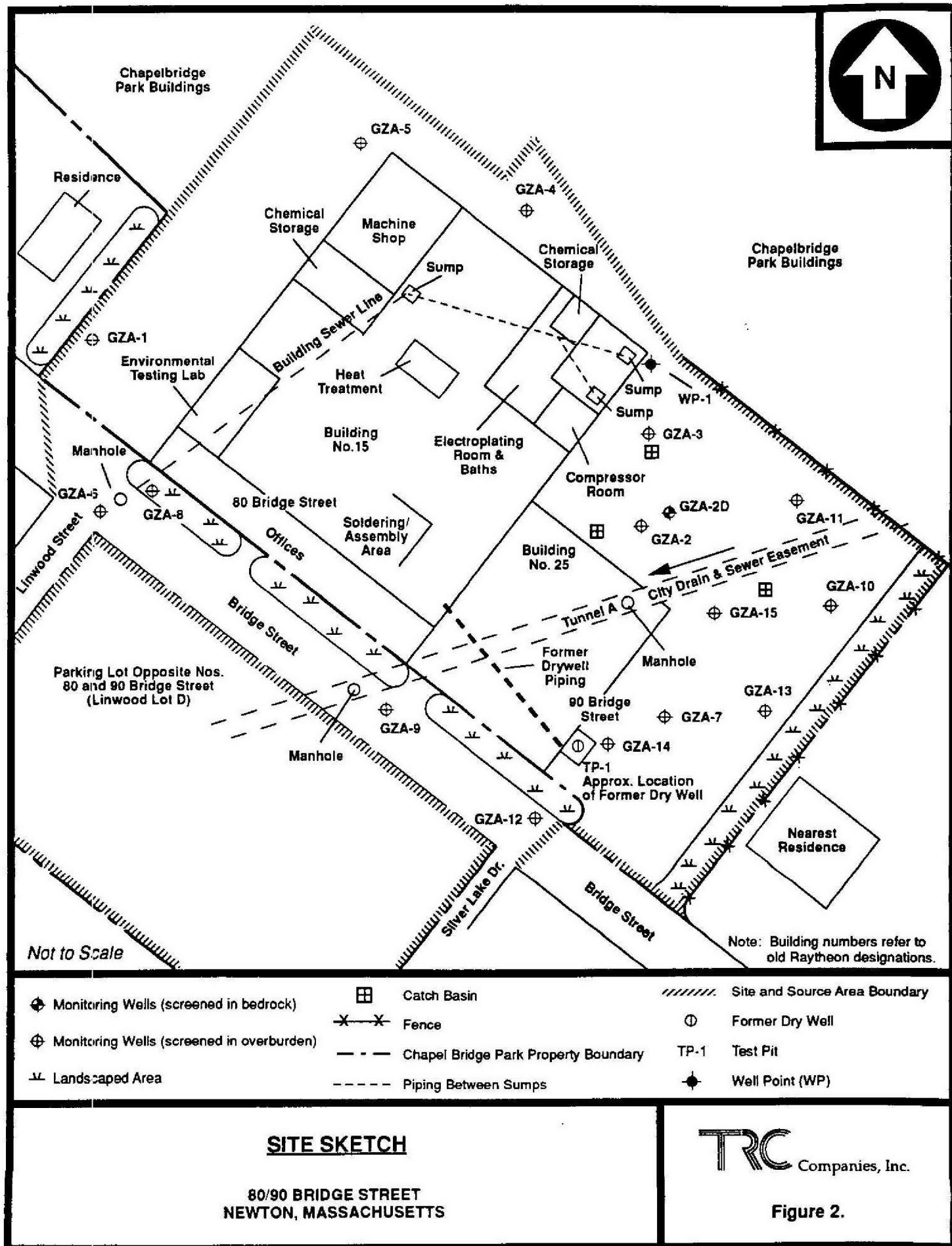
TRC Companies, Inc.

Figure 1.

approximately 21,000 square feet, fronting on Bridge Street, with a parking lot on the east and south sides (TRCC, 1992; Rizzo, 1990). The two-story section of the building is referred to as 80 Bridge Street, and the one-story section is referred to as 90 Bridge Street. The second floor extends from 80 Bridge Street over 6,000 square feet of 90 Bridge Street (GZA, 1989). The two sections are also identified as Building 15 (80 Bridge Street) and Building 25 (90 Bridge Street) (TRCC, 1992).

The 80/90 Bridge Street property is in an area of mixed residential/industrial/commercial land use, in the Nonantum section of Newton, Massachusetts. The nearest residence is 30 feet southeast of Building 25, across a driveway. There are also residences located across Bridge Street. A parking lot (Linwood Street lot D) across Bridge Street from the 80/90 Bridge Street property is also owned by Chapelbridge Park (TRCC, 1992) (Figure 2). There are no gates or fences limiting access to any of the Chapelbridge Park properties, although there is landscaping and fencing separating the industrial park from its residential neighbors. The 80 Bridge Street section is occupied by The Ritchie Organization, an architectural/design firm with 125 employees, and the second story of Building 25 is occupied by Ideaworks, Inc., a small (10 employees) television production company (Gabis, 1993; TRCC, 1992). The ground floor of Building 25 is currently not occupied. There are at least three monitoring wells located on the property (GZA-1, 5, and 8) and there is an area of new pavement in the parking lot between Buildings 15 and 25 (TRCC, 1992).

The 80/90 Bridge Street property is located on moderately level terrain, 39 feet above mean sea level (GZA, 1989; USGS, 1987). The Charles River flows east-northeast past the site 1000 feet to the north. The property is located in Zone C (greater than 500 feet and not prone to flooding) on the Federal Emergency Management Agency's Flood Insurance Rate Map (FEMA, 1986). The site slopes gently toward the Charles River, which receives surface runoff and ground water flow from the site (GZA, 1989; USGS, 1987). Several manholes and storm drains feed into a large drainage and sewer easement running northeast-southwest directly under the building (GZA, 1989).



A former occupant of 80/90 Bridge Street, General Connector Corporation, used chlorinated volatile organic compounds, cutting oils, lubricants, and plating and anodizing metals and chemicals in electronics manufacturing. General Connector Corp. used 80 Bridge Street (Building 15) for most of its production. The 80 Bridge Street building contained an electroplating room, located in the eastern corner of the building, with a drainage sump in the floor. A machine shop was located in the northern corner of the building. There were two indoor chemical storage areas, one next to the machine shop and one in the electroplating area (Rizzo, 1990). Sumps from the machine shop and chemical storage area were connected to the sump in the electroplating area. An environmental testing lab was located in the southern corner of the building and a soldering/assembly area in the center of the building (GZA, 1989). Chemicals were also stored in the compressor room (Rizzo, 1990). General Connector Corp. used the 90 Bridge Street (Building 25) mainly for shipping and receiving; however, Building 25 had a drywell with piping leading into the environmental testing lab in Building 15 (GZA, 1989; Rizzo, 1990).

A memo from W. Hanscom, Investigator, Superfund Enforcement Support Section of EPA, to Nancy Smith, EPA Massachusetts Site Assignment Manager, describes the possibility that drums of hazardous waste were buried under the parking lot opposite 80/90 Bridge Street (Hanscom, 1991). Resulting from this report of buried drums and the subsequent investigation indicating a substantial history of contamination, the 80/90 Bridge Street property was added to the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) on January 21, 1992 (EPA, 1993).

There are five CERCLIS sites (EPA, 1993) and 139 RCRA notifiers in Newton (EPA, 1992a). Table 1 presents a list of all identified structures or areas for the 80/90 Bridge Street that are potential sources of contamination, the containment features associated with the source, and the relative location of each source.

TABLE 1. SOURCE EVALUATION OF 80/90 BRIDGE STREET PROPERTY		
Potential Source Areas	Containment Factors	Location
Former Drywell.	Brick-lined.	On the east side of Building 25.
Electroplating Baths.	Open steel tanks on a concrete floor.	In the electroplating room, east corner, Building 15.
Machine Shop.	Unknown.	In the north corner, Building 15.
Chemical Storage Areas (2).	Unknown.	One next to the machine shop; one in the electroplating room.
Drainage Sumps (3); with pipes.	Unknown.	One next to the chemical storage area and two in the electroplating area.
Environmental Testing Lab.	Unknown.	On the southern edge of Building 15.
Drums of unknown hazardous material.	Paved over with asphalt, otherwise unknown.	Buried under a parking lot opposite the property.

References: GZA, 1989; Hanscom, 1991; TRCC, 1992.

SITE ACTIVITY/HISTORY

The 80/90 Bridge Street property is part of Chapelbridge Park, owned by Mr. William Poorvu of Chapelbridge Park Associates in Newton, Massachusetts. The Linwood Street Lot D, opposite 80/90 Bridge Street, was owned by Riverside Sand and Gravel prior to 1929. Raytheon purchased Lot D in 1929 and sold it in 1965. From 1929 to 1932 or 1946, the 80 and 90 Bridge Street properties were owned by Old Colony Bank and Trust. Raytheon purchased them in 1932 or 1946. Chapelbridge Park Associates purchased all three properties and most of the adjacent properties from Raytheon Corporation in 1965 (TRCC, 1992; GZA, 1989).

From 1965 to 1972, Ferrotec, Inc. leased 80 and 90 Bridge Street from Chapelbridge Park (GZA, 1989). General Connector Corp. leased the properties between 1972 and 1987 (Rizzo,

1990). Wrightson Typographers leased 90 Bridge Street from 1989 to 1990. The Ritchie Organization has leased 80 Bridge Street since 1989 (TRCC, 1992). Table 2 is a summary of the ownership, occupancy, and use of all three properties since 1929, when Raytheon Corporation began purchasing land in the area.

Raytheon used the 80 and 90 Bridge Street properties actively during and immediately after World War II for producing military materials. A photograph taken in 1938 shows a depression or pit in the parking lot area, but does not identify any other site features (GZA, 1989). The parking lot, with the pit no longer apparent, is visible in an aerial photograph taken in 1955 (TRCC, 1992). Three buildings, numbers 19, 20 and 21 on the 90 Bridge Street property, and built before Building 25, were destroyed in the early 1950s (TRCC, 1992). These buildings were designated as chemical storage areas and a chemical research laboratory and were constructed of fireproof materials (TRCC, 1992). Building 25, constructed between 1949 and 1955, was used for chemical storage associated with the manufacturing operations in Building 15 (City of Newton, 1992). It is not known what Raytheon was manufacturing in Building 15 at that time.

There are no records of what wastes were used or disposed of by Raytheon Corporation onsite. Waste disposal information also does not exist for Ferrotec, Inc. during its occupancy of 80/90 Bridge Street. General Connector Corp., in business from 1972 to 1987, was registered with MADEP as a hazardous waste generator (MADEP, 1982; GZA, 1989). Wastes generated by General Connector Corp. included degreasing solvents, methyl ethyl ketone, 1,1,1 trichloroethane (TCA), trichloroethylene (TCE), cutting and lubricating oils, and metal and inorganic salts associated with plating and anodizing operations (e.g., gold, tin, lead, silver, chromium, nickel, cadmium and cyanide) (GZA, 1989). General Connector Corp. is presently listed as a RCRA generator and from 1972-1987 had a permit to discharge process wastewater to the municipal sewer system (EPA, 1992; GZA, 1989). In December 1976, the Metropolitan District Commission began working with General Connector Corp. to improve the quality of the discharged wastewater. The water contained high concentrations of metals and solvents. Problems meeting discharge standards led General Connector Corp. to cease operation at this location in 1987 (GZA, 1989).

TABLE 2. LAND OWNERSHIP AND OCCUPANCY OF THE 80/90 BRIDGE STREET PROPERTY			
Date	Property/Building	Owner	Occupant
Pre-1900 to 1900-1929(?)	Linwood St. Lot D (parking lot opposite 90 Bridge St.)	Riverside Sand and Gravel Company	Same
1929 - 1965	Linwood St. Lot D	Raytheon Corporation	Same
1965 - present	Linwood St. Lot D	Chapelbridge Park Associates	Same
1929 - 1932 or 1946	80 and 90 Bridge St., with only one building (no. 15)	Old Colony Bank and Trust	Same
1932 or 1946 - 1965	80 and 90 Bridge St., (Buildings 15, 19, 20, 21 and 25)	Raytheon Corporation	Same
1965 - 1972	Building 15 and 25 (80 and 90 Bridge St.)	Chapelbridge Park Associates	Ferrotec, Inc.
1972 - 1987	Buildings 15 and 25 or (80 and 90 Bridge St.)	Chapelbridge Park Associates	General Connector Corporation
1989 - 1990	Building 25 (90 Bridge St.)	Chapelbridge Park Associates	Wrightson Typographers
1989 - present	Building 15 (80 Bridge St.)	Chapelbridge Park Associates	The Ritchie Organization
1991 - present	Building 25 (90 Bridge St.)	Chapelbridge Park Associates	Ideaworks, Inc.

References: City of Newton, 1992

General Connector Corp. hired Goldberg, Zoino and Associates, Inc. (GZA) to perform an Environmental Site Assessment in 1987 and Rizzo Associates, Inc. to conduct remediation of the property between May-October 1987. Brown, Rudnick, Freed, and Gesmer; and Mattioni, Mattioni, and Mattioni, Ltd. hired GZA to conduct a ground water study in September 1989. In November 1990 Rizzo Associates was hired to write a Phase I - Limited Site Investigation Report (Rizzo, 1990).

On January 29, 1987, GZA began its environmental site assessment by observing General Connector Corp.'s use of 1,1,1-TCA, TCE, methyl ethyl ketone, and isopropyl alcohol as

degreasing solvents (GZA, 1989). GZA initially installed four monitoring wells around Building 15, one upgradient (GZA-1) and three downgradient (GZA-2, 3 and 4) from the electroplating room. In April 1987, ground water samples collected from these wells were analyzed for volatile organic compounds (VOCs) by EPA Methods 601 and 624, for primary pollutant dissolved metals, and for total cyanide by EPA Method 335 (GZA, 1989). These analyses detected TCE and tetrachloroethylene (PCE) in all wells, 1,1,1-TCA in GZA-2, 3 and 4, 1,1-dichloroethane (1,1-DCA) in GZA-4, trans-1,2-dichloroethene (t-1,2-DCE) in GZA-2, and 1,1-dichloroethene (1,1-DCE) in GZA-4 (GZA, 1989). Inorganic elements detected in the wells included barium, cadmium, and cyanide in GZA-2 (GZA, 1989). Table 3 summarizes the results of GZA's ground water investigation.

These results led to further subsurface investigation from May to October 1987. GZA installed twelve monitoring wells across the property and one well point under the electroplating room. The wells were sampled and analyzed for VOCs by EPA Methods 601 and 624, for primary dissolved metals, and for cyanide by EPA Method 335 (GZA, 1989). Sampling results were compared to Method Detection Limits and to the Maximum Contaminant Levels (MCLs) for each compound/element (GZA, 1989). Gas Chromatograph (GC) screening for VOCs was performed on soil borings from the monitoring wells, soil samples collected from a test pit excavated at the former drywell, residue from piping at the drywell, and on the piping itself (GZA, 1989). The piping and residue were also analyzed by EPA Method 8240 for Hazardous Substance List VOCs. In October, 1987, GZA also conducted a soil gas survey across the parking lot between Buildings 15 and 25 and measured specific conductance in each of the monitoring wells (GZA, 1989).

Two distinct areas of elevated VOC concentrations, one downgradient of the electroplating room and the former drywell, were identified downgradient of the property during GZA's study. The area downgradient of the electroplating room and in the vicinity of the catchbasins (GZA-2, 2D, 3, 4 and 11) contained TCE and its breakdown products, chiefly 1,1-DCE, t-1,2-DCE, and vinyl chloride (GZA, 1989). Concentrations ranged from a trace (less than 10 ppb) (GZA-3) to 1800 ppb of TCE (GZA-2), a trace (GZA-2) to 60 ppb (GZA-4) of 1,1-DCE, a trace (GZA-3) to 860 ppb (GZA-2) of t-1,2-DCE, and vinyl chloride at 300 ppb

**TABLE 3. GROUND WATER SAMPLING RESULTS FROM THE 80/90
BRIDGE STREET PROPERTY, GZA
FEBRUARY - NOVEMBER 1987**

Sample ID	Compound	Concentration(s)
GZA-1	tetrachloroethene trichloroethene t-1,2-dichloroethene	40-290 ppb 20-150 ppb 20 and 210 ppb
GZA-2	tetrachloroethene trichloroethene 1,1-dichloroethene t-1,2-dichloroethene vinyl chloride 1,1,1-trichloroethane 1,1-dichloroethane arsenic barium lead cyanide cadmium chromium selenium	trace-50 ppb 460-1800 ppb trace trace-860 ppb 40 ppb 50-90 ppb trace and 20 ppb <10 (detected) 140 and 230 ppb <10 and 40 ppb 60 ppb 2 ppb <10 ppb < 10 ppb
GZA-2D	barium cyanide	760 ppb 8 ppb
GZA-3	tetrachloroethene trichloroethene t-1,2-dichloroethene 1,1,1-trichloroethane	120-210 ppb trace-220 ppb 10 and 30 ppb trace-60 ppb
GZA-4	tetrachloroethene trichloroethene 1,1-dichloroethene t-1,2-dichloroethene 1,1,1-trichloroethane 1,1-dichloroethane	50-150 ppb 80-230 ppb trace-60 ppb 10 and 20 ppb 700-1300 ppb 30-150 ppb
GZA-6	arsenic barium cadmium chromium lead cyanide	<10 ppb 90 and 3400 ppb <10 ppb 290 ppb 20 and 100 ppb 90 ppb
GZA-7	tetrachloroethene	11,000 and 17,000 ppb
GZA-8	tetrachloroethene trichloroethene	30 ppb 10 ppb
GZA-9	1,1,1-trichloroethane	trace

TABLE 3. (CONTINUED)		
Sample ID	Compound	Concentration(s)
GZA-10	tetrachloroethene	20 ppb
	trichloroethene	30 ppb
	1,1,1-trichloroethane	trace
GZA-11	tetrachloroethene	280 ppb
	trichloroethene	1100 ppb
	1,1-dichloroethene	30 ppb
	t-1,2-dichloroethene	960 ppb
	vinyl chloride	300 ppb
	1,1,1-trichloroethane	70 ppb
GZA-12	tetrachloroethene	trace
	trichloroethene	trace
	1,1,1-trichloroethane	trace
GZA-13	tetrachloroethene	1300 ppb
	trichloroethene	trace
	1,1-dichloroethene	trace
	1,1,1-trichloroethane	20 and 50 ppb
GZA-14	tetrachloroethene	140 ppb
	trichloroethene	50 ppb
	1,1-dichloroethene	trace
	1,1,1-trichloroethane	10 ppb
GZA-15	tetrachloroethene	220 ppb
	trichloroethene	440 ppb
	1,1-dichloroethene	150 ppb
	1,1,1-trichloroethane	trace
WP-1	tetrachloroethene	30 ppb
	trichloroethene	140 ppb
	1,1-dichloroethene	trace
	vinyl chloride	trace
	1,1,1-trichloroethane	10 ppb
	barium	120 ppb
	cadmium	260 ppb
	cyanide	<10 ppb

*Where more than two sampling events occurred, a concentration range is given.

"trace" - refers to a detected organic concentration less than 10 ppb.

<10 ppb - indicates a detected inorganic compound whose concentration cannot be determined below 10 ppb.

Reference: GZA, 1989.

(GZA-11) and 40 ppb (GZA-2) (GZA, 1989). Other VOCs detected in these wells included PCE, from a trace (GZA-2) to 280 ppb (GZA-11), 1,1,1-TCA from a trace (GZA-3) to 1300 ppb (GZA-4), and 1,1-DCA from a trace (GZA-2) to 150 ppb (GZA-4) (GZA, 1989).

The wells in the vicinity of the former drywell (GZA-7, 13 and 14) contained mostly PCE and 1,1,1-TCA. PCE concentrations ranged from 140 ppb (GZA-14) to 17,000 ppb (GZA-7). 1,1,1-TCA was present in GZA-14 (10 ppb) and GZA-13 (20-50 ppb) (GZA, 1989). The other contaminants in these wells were TCE at concentrations up to 50 ppb in GZA-14, and traces of 1,1-DCE (GZA, 1989).

The upgradient and sidegradient wells (GZA-1, 5, 6, 8, 9 and 12) displayed only isolated occurrences of VOC contamination. The one exception was GZA-1, at the far western corner of Building 15. This well contained significant amounts of PCE (40-290 ppb), TCE (20-150 ppb), and t-1,2-DCE (20-210 ppb) (GZA, 1989). These may have migrated onto the site from an upgradient source (GZA, 1989).

Soil samples analyzed for VOC contamination followed the same distribution trends as the ground water samples. The soils from the electroplating area and catchbasins contained greater amounts of TCE, from 300 ppb (GZA-3) to 1,100 ppb (GZA-15). Soils from the drywell, the piping, and the piping residue contained PCE, ranging from 140 ppb in the drywell soils to 240 ppb in the piping residue, and 820 ppb in the piping itself (GZA, 1989). Inorganic contamination in ground water was confined to those wells in the immediate vicinity of the electroplating room, with the exception of GZA-6 and GZA-2, which contained barium (140 - 230 ppb), lead (40 ppb), and cadmium (2 ppb) (GZA, 1989). The well point (WP-1) directly beneath the electroplating room contained barium (120 ppb) and cadmium (260 ppb) (GZA, 1989). GZA-6, which was collected upgradient of Building 15 and adjacent to Linwood Street Lot D, contained barium (90-3,400 ppb), cadmium (10 ppb), chromium (290 ppb) and lead (20-1,000 ppb) (GZA, 1989). Data summary tables of all these results are presented in Appendix A.

Concurrent with GZA's investigation, Rizzo Associates, Inc. was supervising site remediation and waste removal. There is no record of offsite waste disposal prior to 1987 (GZA, 1989; Rizzo, 1990). Approximately 8,005 gallons of electroplating solutions and solvents, plus processing equipment were removed in April and May, 1987 (Rizzo, 1990). Rizzo also analyzed the soil under the electroplating room for VOCs by EPA Method 8240, and for acid

and base neutral extractable organics, priority pollutant metals, polychlorinated biphenyls, pesticides, total cyanide, and total phenols (Rizzo, 1990). These analyses indicated the presence of cadmium (886-2,390 ppm), copper (165-531 ppm) and cyanide (456-978 ppm) (Rizzo, 1990).

Rizzo removed 165 cubic yards of soil from under the electroplating room. The excavation was lined with plastic and filled with clean materials (Rizzo, 1990). Rizzo estimated that another 200 cubic yards of contaminated soil remained under the electroplating room, but could not be removed without jeopardizing the building's foundation (Rizzo, 1990). The clean fill and contaminated soil area were covered with a new concrete floor (Rizzo, 1990).

ENVIRONMENTAL SETTING

Land in the vicinity of 80/90 Bridge Street is heavily developed (TRCC, 1992). Most of the property is paved, with little natural soil cover (USGS, 1987). Materials beneath the site consist of sand and gravel fill to a depth of 4 to 14 feet, underlain by sand and silt layers of varying thickness, occasionally interrupted by a 3 to 5 foot layer of peat (GZA, 1989). These can be collectively identified as glaciofluvial and till deposits (GZA, 1989). Bedrock beneath the property consists of the Roxbury Conglomerate (Zen, 1983). The entire area is within the Boston Basin, a structural depression bounded to the west and southwest by the Bloody Bluff Fault Zone (Zen, 1983).

The depth to ground water varies from six to ten feet beneath the property (GZA, 1989). Hydraulic conductivity values across the property have been determined to be 10 to 20 ft/day in the upper sand and gravel (to a depth of 25 feet), less than 0.01 ft/day in the silt and clay layers (to a depth 25 to 50 feet), and 0.1 to 1 ft/day in the lower till deposits (50 to 95 feet) (GZA, 1989). No fracturing was observed in the bedrock beneath the property (GZA, 1989). Most of the sewer lines that traverse the site are apparently above the ground water table, with the possible exception of the main tunnel running underneath 90 Bridge Street (GZA, 1989). It is possible that during periods of high ground water levels and low sewer flow, the

main tunnel could act as a ground water "sink" and channel ground water into the sewer system (GZA, 1989).

The following cities and towns are located within four miles of the 80/90 Bridge Street property: Arlington (pop: 44,630), Belmont (pop: 26,500), Brighton (pop: 70,284), Brookline (pop: 60,470), Cambridge (pop: 72,195), Lexington (pop: 29,600), Needham (pop: 28,214), Newton (pop: 83,528), Waltham (pop: 57,384), Watertown (pop: 33,284), Wellesley (pop: 26,615) and Weston (pop: 10,179) (MA Census, 1991).

Nearly all of these towns obtain their drinking water from the Massachusetts Water Resources Authority (MWRA) from a reservoir located in western Massachusetts (Gabis, 1992b).

Wellesley has two ground water wells, serving 40 percent of the public water customers (25,000 people) located 3.9 miles southwest of the site (Gabis, 1992c). Residents of Newton, Waltham, Weston, Lexington, and Belmont are served by some private wells (Gabis 1992b; DOH: Newton, 1992; Sosnicki, 1992; Brouillet, 1992). The nearest private well is located 0.48 miles southwest from the site, on Prescott Street, in Newton (DOH: Newton, 1992).

Table 4 summarizes public wells within four miles of 80/90 Bridge Street, including the direction and distance from the source areas at the site, the location, the population served, and the type of wells, if known. Table 5 summarizes the approximate population served by private drinking water wells within four miles of the site. Private drinking water well data was collected directly from lists provided by towns with private wells.

The surface runoff from the property is channelled into several storm drains and manholes which ultimately empty into the Charles River which is 1000 feet to the north of the site. The Charles River is not used as a public drinking water supply (USGS, 1987). The Charles River flows 13.5 miles downstream from the property and forms an estuary in Boston Harbor before dispersing into the outer harbor at Castle Island (USGS, 1987; NWI, 1977) (Figure 3). The river flows at an average rate of 304 cubic feet per second and is tidal beyond the locks of the Charles River Dam, 9.5 miles downstream of the site (USGS, 1987; NWI, 1977; USGS, 1990). It is a Class B waterway and although this section of the Charles River is not stocked with fish, fishing is permitted along the river (Gabis, 1992d,e).

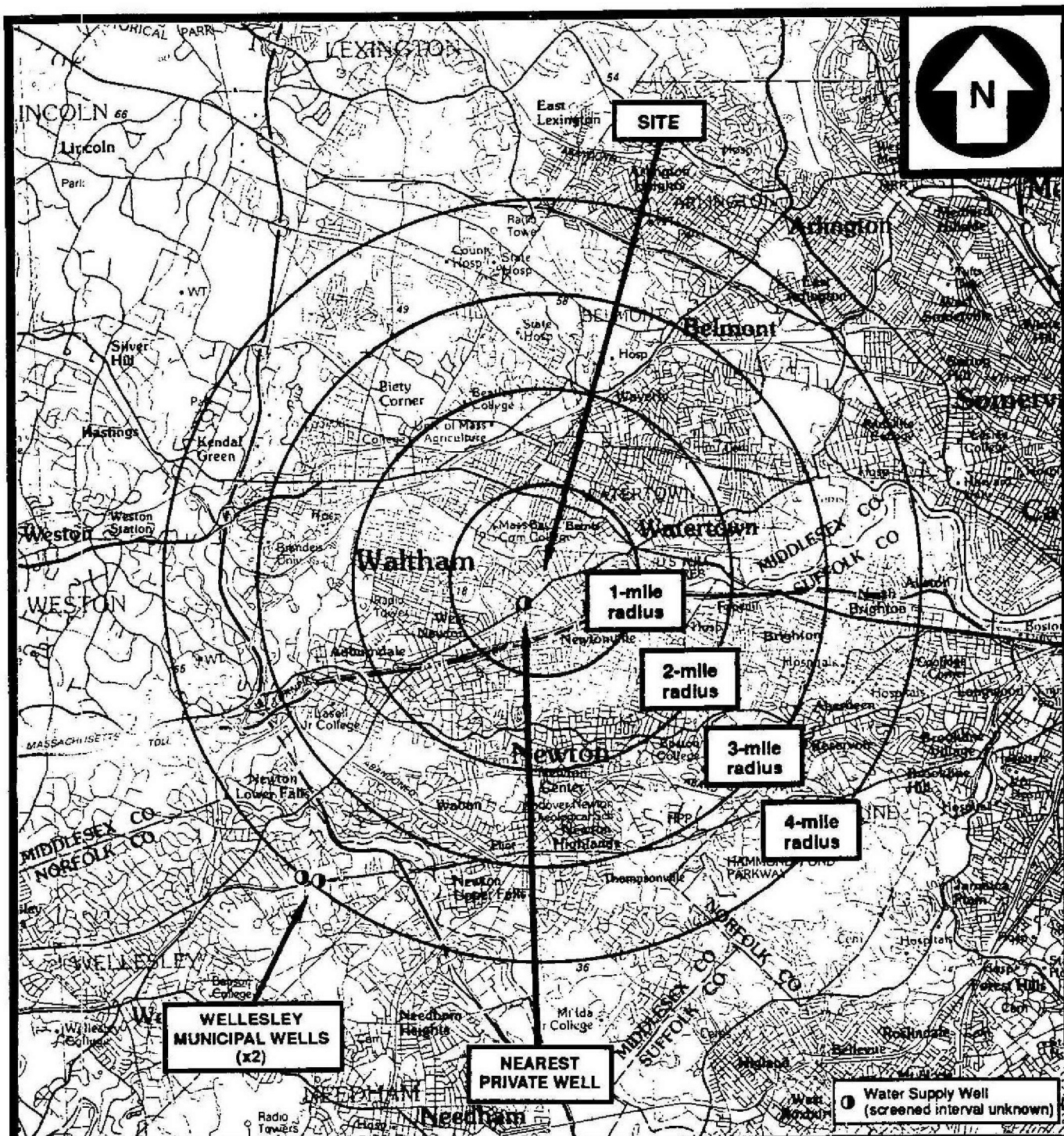
TABLE 4. PUBLIC WATER SUPPLY WELLS LOCATED WITHIN FOUR MILES OF THE 80/90 BRIDGE STREET PROPERTY				
Distance/ Direction from Site	Source Name	Location of Source	Approximate Population Served	Source Type
3.9 miles southwest	Wellesley town wells (2)	Between Cedar and Emerson Roads	10,000	Overburden well, depth unknown.
TOTAL			10,000	

Reference: Gabis, 1992c.

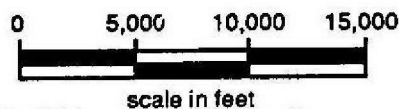
TABLE 5. PRIVATE WELL USERS LOCATED WITHIN FOUR MILES OF THE 80/90 BRIDGE STREET PROPERTY			
Radial Distance from Site (miles)	Town	Subtotal	Approximate Population Served by Private Wells
0.00 - 0.25	Newton	0	0
0.25 - 0.50	Newton	3	3
0.50 - 1.00	Newton	6	6
1.00 - 2.00	Newton Belmont Waltham	26 3 5	34
2.00 - 3.00	Newton Belmont Waltham	27 3 8	38
3.00 - 4.00	Newton Waltham	29 2	31
TOTAL			112

Reference: Gabis, 1992b; Brouillet, 1992; DOH, Newton, 1992; Sosnicki, 1992.

There is one palustrine, forested wetland 0.2 miles long, approximately 2.1 miles downstream of the property (NWI, 1977b) (USGS, 1987). There are no threatened or endangered species habitats onsite or within a 4-mile radius of the site or along the Charles River downstream of the property (Lauber, 1992). There is one 5-acre wetland, a remnant of Silver Lake, 0.2 miles southwest of the site (Jung/Brannen, 1983).



BASE MAP IS A PORTION OF THE FOLLOWING 30 x 60' USGS QUADRANGLE:
BOSTON, MA-RI-CT, 1989



FOUR-MILE RADIUS MAP

80/90 BRIDGE STREET
NEWTON, MASSACHUSETTS

TRC Companies, Inc.

Figure 3.

Approximately 135 people currently work at 80/90 Bridge Street, 10 people at Ideaworks in Building 25 and 125 people at the Ritchie Organization, in Building 15 (Gabis, 1993; TRCC, 1992). The nearest residence is 30 feet from the drywell area at the site. It is estimated that 24 people live in residences within 200 feet of the drywell area (TRCC, 1992). Table 6 summarizes the distribution of residents within four miles of the property.

SUMMARY

The 80/90 Bridge Street property (formerly Cecil H. Wrightson) in Newton, Massachusetts is part of an industrial complex known as Chapelbridge Park. The property is located in a mixed residential/commercial/industrial neighborhood and consists of a divided, one and two-story brick building surrounded by a paved lot on the south and east sides. The property has been occupied by Old Colony Bank, Raytheon Corporation, Ferrotec, Inc., General Connector Corporation, Wrightson Typographers, Inc., and is currently occupied by Ideaworks, Inc. and The Ritchie Organization. Chapelbridge Park also owns a parking lot across the street from the site.

Source areas associated with the property are connected to its use as a chemical storage area and laboratories by Raytheon and to later electronics manufacturing by Ferrotec Inc. and General Connector Corp. An EPA memo suggests that drums of an unknown hazardous material may have been buried under the parking lot opposite the site. Wastes produced by General Connector Corporation in the manufacture of electrical components on the property included chlorinated volatile organic compounds, metal wastes, and cyanide. Goldberg, Zoino and Associates, Inc. conducted an extensive ground water study of 80-90 Bridge Street in 1989 for Brown, Rudnick, Freed, and Gesmer; and Mattioni, Mattioni, Mattioni, Ltd. and determined that widespread contamination of ground water exists beneath the site (GZA, 1989).

The area around the site is entirely developed, with the nearest residence 30 feet from source areas onsite (TRCC, 1992). Virtually all the residents within four miles of the site receive water from a public supply reservoir not considered a target at the property. The nearest

TABLE 6. ESTIMATED POPULATION WITHIN FOUR MILES OF THE 80/90 BRIDGE STREET PROPERTY			
Radial Distance from Site (miles)	Town	Population	Subtotal
Onsite (workers)	Newton	135	135
0.00 - 0.25	Newton	946	946
0.25 - 0.50	Newton Watertown	2,202 965	3,167
0.50 - 1.00	Newton Watertown Waltham	6,759 6,194 805	13,758
1.00 - 2.00	Newton Watertown Waltham Belmont Brighton	19,312 15,757 11,004 2,380 4,733	53,186
2.00 - 3.00	Newton Watertown Waltham Belmont Brighton Cambridge	20,600 6,753 19,847 13,032 24,848 2,546	87,626
3.00 - 4.00	Newton Waltham Belmont Brighton Cambridge Arlington Brookline Lexington Needham Wellesley Weston	18,025 12,627 7,768 20,115 16,807 8,819 18,575 1,505 1,103 1,714 889	107,947
TOTAL			266,765

References: Gabis, 1992b; Gabis 1993.

private drinking water well is 0.48 miles away and upgradient. Approximately 10,000 people obtain water from two municipal wells serving Wellesley, MA, located 3.9 miles from the site. An estimated 112 people are served by private wells within four miles of the site (Gabis, 1992b). Surface runoff from the site is channelled into the Charles River through sewer lines. There are no threatened or endangered species, habitats onsite or within four miles of the site. There is one vegetated wetland, 0.2 miles long, 2.1 miles downstream along the river and a 5-acre wetland 0.2 miles southwest of the site. Fishing is permitted in the Charles River. There are 135 people working at the site, 17,871 people living within one mile and 266,630 living within four miles of the site.

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APPENDIX A

**DATA SUMMARY TABLES,
GOLDBERG, ZOINO AND ASSOCIATES,
FOR GENERAL CONNECTOR CORP.,
April - October, 1987**

Note: The data provided in this Appendix can be found in the Draft Preliminary Assessment Report dated March 8, 1993.